

Complete Listing Of Claims, Incorporating Amendments
In Response To Office Action Dated 01/12/2005
For Serial No. 10/652,336;

WHAT IS CLAIMED IS:

1. – 7. Canceled

8. (Original) A method of obtaining an emissivity and temperature of a surface of interest, comprising:

substituting the surface of interest with a highly reflective surface having a known reflectivity (r_{ci});

measuring a reflected signal S_{ci} from the highly reflective surface in each wavelength interval i of a plurality of wavelength intervals;

replacing the highly reflective surface with the surface of interest;

measuring a reflected signal S_i from surface of interest in each wavelength interval i ;

obtaining a reflectivity r_i for each wavelength interval i using the following relationship:

$$r_i = \frac{S_i}{\frac{S_{ci}}{r_{ci}}}$$

determining an emissivity (ϵ_i) for each wavelength interval i according to the following relationship:

$$\epsilon_i = 1 - r_i$$

plotting, for each wavelength interval i , a ratio of measured power to calculated power normalized to an n th wavelength interval; and

obtaining the temperature of the surface of interest based on the plots for each wavelength interval i .

9. Canceled.

10. (Original) The method of claim 8, wherein obtaining the temperature of the surface of interest comprises locating an intersection of the plots with one another.

11. (Original) The method of claim 8, further comprising:
shocking the surface of interest prior to measuring a reflected signal S_i from the surface of interest.
12. (Original) The method of claim 11, wherein shocking the surface comprises:
driving a flyer into the surface of interest at a given velocity.